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Coping, Goal Adjustment, and Positive and Negative Affect in Definitive Infertility

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Abstract

The relationships between coping strategies, goal adjustment and positive and negative affect were studied in 83 definitive involuntary childless people. Self-report questionnaires were filled out. The findings suggested that positive ways to handle the childlessness were related to positive affect, while negative ways to deal with the childlessness were related to negative affect. Cognitive coping strategies seemed to have a stronger influence on affect than the behavioral coping strategies. Adjusting the goal to have children seemed to be a fruitful way to cope. These findings suggested that intervention programs should pay attention to both cognitive coping strategies and goal adjustment.

Keywords

- *coping*
- *goal adjustment*
- *infertility*
- *negative affect*
- *positive affect*

COMPETING INTERESTS: None declared.

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Introduction

ABOUT 10 percent to 15 percent of couples have infertility problems and after examination and treatment, about 3 percent to 5 percent of the couples with a wish to have a child, cannot have biological children. Organic causes can be found in 70 percent, and the remainder are deemed idiopathic or unexplained (Brkovich & Fisher, 1998). There are many possible causes of infertility and often the problem stems from a combination of factors in either one or both partners. Women may be infertile because of hormone imbalances or problems in the reproductive tract. Men may be infertile because they have not enough sperm, because the sperm are not active enough, because the passage, or vas deferens, is blocked, or because of problems with ejaculation. In 30 percent of the cases the male has the infertility problem, in 30 percent the female has the infertility problem, and in 40 percent both partners have infertility problems (Freya, 2007).

For most people, having children is an essential part of life (Gerrity, 2001a; van Balen & Bos, 2004), and infertility is the worst thing that could ever happen to them. Consequently, infertility can be seen as a major life stressor (Gerrity, 2001a; Meyers et al., 1995; van Balen, 2001). Many couples go on to fulfill their childwish in another way, for example by adopting a child, or by becoming a foster parent. For others however, this is not the solution to their infertility problems, and they choose to not pursue any of the other parenting options.

Most studies focus on patients attending fertility clinics. These people are still in the process of pursuing the goal of having a biological child. Less is known about couples who are facing the reality of a childless future and have to let go their goal to have children (van Balen & Trimbos-Kemper, 1994). For most of them, facing a future without children is a great problem leading to much suffering (van Balen & Bos, 2004). Studies have shown that involuntary childless people report lower levels of well-being and higher levels of distress (McQuillan, Greil, White, & Casey Jacob, 2003; van Balen & Trimbos-Kemper, 1993). The group of people who are involuntary childless can be considered as in need of emotional help in learning how to cope with their childlessness. The present study will focus on these definitive involuntary childless people in order to find the relevant factors for intervention programs.

To our knowledge only one study has been performed on coping with definitive involuntary

childlessness. Kraaij, Garnefski, and Vlietstra (2008) studied the relationship between cognitive coping strategies and depressive symptoms in people for whom an involuntary childless future was definitive. They found that the coping strategies self-blame, rumination, and catastrophizing were related to higher levels of depression, while positive reappraisal was related to lower scores on depressive symptoms. A number of studies have focused on coping strategies in patients attending a fertility clinic. Coping strategies such as avoidance, denial, escape (Band, Edelmann, Avery, & Brinsden, 1998; Berghuis & Stanton, 2002; Litt, Tennen, Affleck, & Klock, 1992; Lord & Robertson, 2005; Morrow, Thoreson, & Penney, 1995; Peterson, Newton, Rosen, & Skaggs, 2006; Terry & Hynes, 1998), and self-blame (Lord & Robertson, 2005; Morrow et al., 1995), have been found to be related to more psychological distress in people in treatment for infertility. Approach-oriented and active coping strategies (Berghuis & Stanton, 2002; Demyttenaere et al., 1998; Dhillon, Cumming, & Cumming, 2000; Terry & Hynes, 1998) have been found to be related to less psychological distress in this group. In the present study we will focus on both cognitive and behavioral coping strategies. We will focus on the cognitive coping strategies found to be significant in the study by Kraaij and colleagues, supplemented with behavioral coping strategies.

Another way to cope with definitive infertility is goal adjustment. Goals can be defined as internal representations of desired outcomes (Austin & Vancouver, 1996). Goals provide the structure that define people's life and imbue life with purpose. Confronting unattainable goals may result in reduced well-being and enhanced psychological distress. Successful development and quality of life might be facilitated both by the pursuit of goals that are attainable as well as by the ability to disengage from goals that are not (Wrosch & Scheier, 2003; Wrosch, Scheier, Miller, Schulz, & Carver, 2003b). Several studies have shown that goal disengagement and goal reengagement can be associated with high subjective well-being (Heckhausen, Wrosch, & Fleeson, 2001; Tunali & Power, 2002; Wrosch, Scheier, Carver, & Schulz, 2003a; Wrosch et al., 2003b). In the present study we will examine whether people's capacity to withdraw effort and commitment from the unattainable goal to have children is related to well-being. Besides studying goal disengagement, we will also study the influence of goal reengagement. The relationship between the

person's ability to identify alternative goals, the infusion of those goals with value, and the initiation of activities directed toward the attainment of those goals to well-being will be studied.

Past research has focused primarily on negative outcomes. Recently researchers also started paying attention to positive psychology in order to have a more open and appreciative perspective regarding human potentials, motives, and capacities (Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001). Research has shown different relationships for positive and negative affect (Brehm & Miron, 2006; van der Veek, Kraaij, Garnefski, & Maes, 2006). In the present study we will focus on both positive and negative emotional states.

In conclusion, more research on the relationships between coping strategies, goal adjustment and positive and negative affect in definitive involuntary childless people is needed. First, we will examine the bivariate relationships between cognitive coping strategies, behavioral coping strategies, goal disengagement and goal reengagement on the one hand, and positive and negative affect on the other hand. Next, the multivariate relationships will be studied. This will be done for the coping strategies and goal adjustment both separately and combined.

Methods

Sample and procedure

People with an unfulfilled child wish participated in an earlier follow-up study (Kraaij et al., 2008) and were contacted again. Initially they were approached using various sources, such as placement of announcements in newspapers, magazines and self-help groups on the Internet. In the earlier study respondents were asked to sign a consent form in order to give the researchers permission to contact them again in the future. In the present study respondents received a letter with the invitation to participate, and they received a self-report questionnaire with a return envelope.

Included were men and women who were not able to have biological children due to medical reasons by either themselves or their partner. Only people for whom the infertility was definitive were included. People who were still in the medical treatment process and people who adopted a child were excluded.

Of the 99 respondents of the earlier follow-up study, 94 people gave permission to be contacted in

the future for research purposes. Of these 94 respondents, 83 people (88%) participated in the present study. The mean age of the respondents was 45 years (SD 5.95) and 71 percent were female. Almost all were either married or living together and 59 percent had higher education. On average people had wanted to have a child for 16 years (SD 6.78), knew about the fertility problems for 12 years (SD 6.43) and knew for eight years (SD 5.31) that the infertility was definitive. In 39 percent of the cases the respondent him or herself had the physical reason for the infertility, in 18 percent of the cases both partners had the physical reason for the infertility, in 19 percent the partner had the physical reason and in 24 percent it was unknown. For the majority (72%) treatment had been possible, and 63 percent had chosen medical treatment. For none of the respondents treatment had been successful.

Measures

Cognitive coping strategies To measure cognitive coping strategies four subscales of the Cognitive Emotion Regulation Questionnaire were used (CERQ; Garnefski, Kraaij, & Spinhoven, 2001, 2002). The CERQ assesses what people think at the time of or after the experience of threatening or stressful life events. The CERQ can be used to measure either a more general coping style (referring to a 'trait'), or a more specific response to a specific event (referring to a 'state'). In the present study respondents were asked which specific cognitive coping strategies they used in relation to their involuntary childlessness. Each subscale consists of four items. Each of the items has a five-point Likert scale. A subscale score can be obtained by adding up the four items, indicating the extent to which a certain cognitive coping strategy is used. The CERQ subscales that were used in the present study were: self-blame, which refers to thoughts of blaming yourself for your involuntary childlessness; rumination, which refers to thinking about the feelings and thoughts associated with the involuntary childlessness; positive reappraisal, which refers to thoughts of attaching a positive meaning to the childlessness in terms of personal growth; and catastrophizing, which refers to thoughts of explicitly emphasizing the terror of the involuntary childlessness. The psychometric properties of the CERQ, both used as a more general coping style and as a more specific response to a specific event, have been proven to be good (Garnefski, Baan, & Kraaij,

2005; Garnefski et al., 2001, 2002; Garnefski & Kraaij, 2006; Kraaij & Garnefski, 2006; Kraaij, Garnefski, & van Gerwen, 2003), with Cronbach's alpha coefficients in most cases well over .70 and in many cases even over .80. Furthermore, the CERQ has been shown to have good factorial validity, good discriminative properties, and good construct validity (Garnefski et al., 2002). In the present study the alpha-reliabilities of the subscales also appeared to be good, with alphas ranging from .81 to .90.

Behavioral coping strategies To measure behavioral coping strategies three subscales of the COPE were used (Carver, Scheier, & Weintraub, 1989), reflecting pure behavioral strategies: active coping, use of emotional social support, and substance use. In the scale 'use of emotional social support' two items were slightly rephrased to emphasize the behavior: 'I try to get emotional support from friends or relatives' was changed into 'I ask for emotional support from friends or relatives', and 'I get sympathy and understanding from someone' was changed into 'I look for sympathy and understanding from someone'. Each subscale consists of four items. Each of the items has a four-point Likert scale. A subscale score can be obtained by adding up the four items, indicating the extent to which a certain behavioral coping strategy is used. Good psychometric properties have been found in the past (Carver et al., 1989). In the present study the alpha-reliabilities of the subscales also appeared to be good, with alphas ranging from .80 to .86.

Goal adjustment Goal disengagement and reengagement were measured by the Goal Disengagement and Goal Reengagement Scale (Wrosch et al., 2003a, 2003b). In the present study the questionnaire was used in a specific format: respondents were asked about their unattainable goal to have children. The scale consists of 10 items. The four items of the goal disengagement scale assessed the ease with which respondents were able to reduce effort and relinquish commitment toward the unattainable goal to have children. The six items of the goal reengagement scale assessed the extent to which respondents reengaged in other new goals when they faced the unattainable goal to have children. Each of the items has a five-point Likert scale and scale scores can be obtained by adding up the items. Cronbach's alphas of .84 and .86 respectively have been reported in earlier studies (Wrosch et al.,

2003b). In the present study Cronbach's alphas of .71 for goal disengagement and .88 for goal reengagement were found.

Positive and negative affect To measure positive and negative affect, the Positive and Negative Affect Schedule was used (Watson, Clark, & Tellegen, 1988). Positive Affect (PA) reflects the extent to which a person feels enthusiastic, active, and alert. High PA is a state of high energy, full concentration, and pleasurable engagement, whereas low PA is characterized by sadness and lethargy. In contrast, Negative Affect (NA) is a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness, with low NA being a state of calmness and serenity. The two scales have shown to be largely uncorrelated. Both scales consist of 10 items and use a five-point Likert answer format. Scale scores can be obtained by adding up the 10 items, with higher scores reflecting higher PA or NA. The scales have been found to be internally consistent and to have good validity (Crawford & Henry, 2004; Watson et al., 1988). In the present study Cronbach's alphas of .90 for PA and .84 for NA were found.

Statistical analyses

To study the relationships between coping, goal adjustment, and positive and negative affect, Pearson correlations and multiple regression analyses were used. Method stepwise was applied. To get a good understanding of the relationships, first the separate relationships of coping and goal adjustment with positive and negative affect were studied. Next, the joint relationship of both coping and goal adjustment with positive and negative affect was studied.

Results

Bivariate relationships of coping strategies and goal adjustment with positive and negative affect

To study the relationships between coping strategies and goal adjustment on the one hand and positive and negative affect on the other hand, Pearson correlations were calculated (Table 1). Positive reappraisal, active coping, use of emotional support, and goal reengagement were positively associated with

Table 1. Relationships between coping strategies, goal adjustment, and positive and negative affect. Pearson correlations

	<i>Positive affect</i> <i>r</i>	<i>Negative affect</i> <i>r</i>
Self-blame	.01	.38***
Rumination	.10	.27*
Positive reappraisal	.33**	.14
Catastrophizing	-.06	.45***
Active coping	.27*	.06
Emotional support	.25*	.11
Substance use	-.05	.04
Goal disengagement	.01	-.35**
Goal reengagement	.23*	-.01

* $p < .05$; ** $p < .01$; *** $p < .001$

positive affect. Self-blame, rumination, and catastrophizing were positively correlated with negative affect, while goal disengagement was negatively correlated with negative affect.

Multivariate relationship between coping strategies and positive and negative affect

To study the multivariate relationships between the cognitive and behavioral coping strategies at the one hand and positive and negative affect on the other hand, two separate multiple regression analyses were performed (Table 2). For positive affect, only positive reappraisal came into the model. Using positive reappraisal to a higher extent was related to higher scores on positive affect. Self-blame and catastrophizing came into the final model for negative affect. Using self-blame and catastrophizing to a higher extent was related to higher scores on negative affect.

Multivariate relationships between goal adjustment and positive and negative affect

To study the multivariate relationships between goal disengagement and goal reengagement on the one hand and positive and negative affect on the other hand, two separate multiple regression analyses were performed.¹ Results were similar to the Pearson correlations. For positive affect, only goal reengagement came into the model (Beta = .23; $p < .05$). For negative affect, only goal disengagement came into the model (Beta = -.35; $p < .01$).

Table 2. Relationships between coping strategies and positive and negative affect. Multiple regression analyses, method stepwise

	<i>Positive affect</i> <i>Beta</i>	<i>Negative affect</i> <i>Beta</i>
Self-blame		.35**
Positive reappraisal	.33**	
Catastrophizing		.25*
<i>R</i> -square	.11	.26
<i>F</i> (d.f.)	9.45** (1,79)	13.32*** (2,78)

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 3. Relationships between coping strategies, goal adjustment, and positive and negative affect. Multiple regression analyses, method stepwise

	<i>Positive affect</i> <i>Beta</i>	<i>Negative affect</i> <i>Beta</i>
Self-blame		.33**
Positive reappraisal	.33**	
Goal disengagement		-.27*
<i>R</i> -square	.11	.22
<i>F</i> (d.f.)	9.30** (1,78)	11.13*** (2,77)

* $p < .05$; ** $p < .01$; *** $p < .001$

Multivariate relationships of coping strategies and goal adjustment with positive and negative affect

To study the multivariate relationships between coping strategies and goal adjustment on the one hand and positive and negative on the other hand, two separate multiple regression analyses were performed (Table 3). Again, only positive reappraisal came into the model for positive affect. For negative affect, self-blame and goal disengagement came into the model. Respondents who reported to use self-blame to a higher extent and goal disengagement to a lower extent reported higher scores on negative affect.

Discussion

Thus far most studies on infertility have focused on people who are still in the process of pursuing the goal of having children. Less is known about people

who have to give up their goal to have children and the way they cope with it. The aim of the present study was to study the relationships between coping strategies, goal adjustment, and positive and negative affect in a sample of 83 persons for whom an involuntary childless future was definitive.

First, the bivariate relationships were studied. Positive reappraisal, active coping, use of emotional support, and goal reengagement were positively associated with positive affect. Self-blame, rumination, and catastrophizing were positively correlated with negative affect, while goal disengagement was negatively correlated with negative affect. These findings suggest that positive ways to handle the involuntary childlessness are related to positive affect, namely the extent to which a person feels enthusiastic, active, and alert. On the other hand, negative ways to deal with the involuntary childlessness seem to be related to subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness. This is in line with other research on parents with a child with Down Syndrome where different coping models were found for positive and negative emotions (van der Veek et al., 2006). In these coping models positive cognitive coping strategies were positively related to positive affect and negative coping strategies were positively related to negative affect.

Next, the multivariate relationships were studied. First, the relative influence of both the cognitive and behavioral coping strategies was studied. For positive affect, only positive reappraisal came into the model. More thoughts of attaching a positive meaning to the childlessness in term of personal growth were related to higher scores on positive affect. This is in line with the study on parents with a child with Down Syndrome where positive reappraisal was also related to positive affect (van der Veek et al., 2006). Self-blame and catastrophizing came into the final model for negative affect. More thoughts of blaming yourself for the involuntary childlessness and more thoughts of explicitly emphasizing the terror of the involuntary childlessness were related to higher scores on negative affect. These relationships have also been found in numerous other studies (for an overview see Garnefski & Kraaij, 2006). It is interesting to see that in the multivariate analyses, only cognitive coping strategies came into the final model. None of the behavioral coping strategies entered the final model. Further research is needed to test the hypothesis that cognitive

coping strategies have a stronger influence on positive and negative emotions in definitive childless people than behavioral coping strategies. If this hypothesis holds to be true, this would have strong clinical implications, suggesting that interventions should focus on cognitive techniques. It would be interesting to see whether behavioral coping strategies are more important for people who attend a fertility clinic. These people are in a phase where something can be done: they are still actively pursuing the goal to have a child.

Second, the multivariate relationships between goal adjustment and positive and negative affect were studied. For positive affect, only goal reengagement came into the model, and for negative affect, only goal disengagement came into the model. People's capacity to withdraw effort and commitment from the unattainable goal to have children appeared to be related to lower levels of negative affect. The person's ability to identify alternative goals, the infusion of those goals with value, and the initiation of activities directed toward the attainment of those goals appeared to be related to higher levels of positive affect. These findings are in line with other studies suggesting that a good quality of life might be facilitated both by the ability to disengage from goals that are no longer obtainable and the pursuit of goals that are attainable (Heckhausen et al., 2001; Tunali & Power, 2002; Wrosch & Scheier, 2003; Wrosch et al., 2003b). These findings confirm that treatment programs should pay attention to goal adjustment in people with definitive infertility (Gerrity, 2001b). Daniluk (2001) found in her qualitative study of infertile couples that two years after abandoning efforts to achieve a pregnancy, most couples demonstrated a willingness to consider future life scenarios other than biological parenthood. More research is needed to find out at what time the topic of goal adjustment could be part of a treatment program.

Finally, the multivariate relationships between coping strategies and goal adjustment with positive and negative affect were studied. For positive affect, only positive reappraisal came into the final model. For negative affect, both self-blame and goal disengagement came into the model. These findings suggest that for definitive childless people cognitive coping strategies have the largest predictive power in positive and negative affect, followed by the ability to disengage from the goal to have children. It seems appropriate to suggest that treatment programs should focus on both cognitive coping strategies and goal adjustment.

Some methodological considerations have to be taken into account. A first issue of concern is the sample size and representativeness of the group studied. Even though respondents were approached through various sources, especially people looking for information or help on the Internet might have responded and participated. People for whom it is less of a problem to have no children might not have reacted. We also have no information about reasons for not participating after the earlier follow-up study and again cannot be sure about the representativeness. Another problem might be the fact that people who participated varied in time since the diagnosis of the infertility and in time since the definite status of their childlessness. However, earlier findings did not show a significant relationship between time since awareness of the infertility problems and time since definitive infertility on the one hand and symptoms of depression on the other hand (Kraaij et al., in press). Time since definitive infertility could affect coping. People may have different reactions to a stressor in the short term compared to the longer term, and also the effectiveness of a coping reaction may vary with the phase of the stressor (Zeidner & Saklofske, 1996). Finally, time since definitive infertility could affect goal adjustment. More research into this area is needed. Future studies should focus on groups of childless people who are in similar phases. In addition, we do not know what the effect is of surveying people who were already asked about their coping strategies. Possibly this affected them to think more about the diverse ways one could cope. On the other hand, earlier findings showed that over time, people either did not change the extent to which they coped with the definitive infertility, or they used certain strategies to a lesser extent (Kraaij et al., 2008).

Another limitation of the design was that coping strategies, goal adjustment, and positive and negative affect were measured by self-report instruments, which may have caused some bias. It is important for future studies also to use other forms of data-collection, such as interviews, expert judgments, or experiments. Finally, several aspects that could also be related to positive and negative affect, such as social support and personality characteristics were not included in the present study. Future studies should try to include these other issues as well.

Despite these shortcomings, cognitive coping strategies and goal adjustment seem to be related to positive and negative affect. Furthermore, positive ways to handle the involuntary childlessness seem to

be related to positive mood states, whereas negative ways to deal with the involuntary childlessness seem to be related to negative mood states. If these findings can be confirmed, they could contribute to the focus and content of intervention programs for persons who have to let go their goal to have children.

Note

1. The interaction effect between goal disengagement and goal reengagement on positive and negative affect was also tested and appeared to be not significant.

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